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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,515	09/29/2000	Vernon L. Crow	01413.0014	1587

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FINNEGAN, HENDERSON, FARABOW
GARRETT & DUNNER, L. L. P.
3100 I Street, N.W.
Washington, DC 20005-3315

EXAMINER

HAVAN, THU THAO

ART UNIT PAPER NUMBER

2672

DATE MAILED: 06/18/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,515

Applicant(s)

CROW ET AL.

Examiner

Thu-Thao Havan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16 and 33-38 is/are allowed.
- 6) ☒ Claim(s) 17-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 4, 2004 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-38 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **17-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendrickson (US patent no. 5,930,784) in view of Becker (US patent no. 6,034,697).

Re claim **17**, Hendrickson discloses a computer-implemented method for generating graphical surface map visualizations from a set of data records, comprising the steps receiving a plurality of data records (col. 1, lines 10-49); creating vector representations of data records (col. 2, lines 26-36); generating a first surface map representation corresponding to vector representations in response to selection of first surface map generation method (col. 7, line 41 to col. 8, line 11). In other words, Hendrickson teaches locating related words in geometric space for data mining. The related words are located relative to the relationships among the meaning of the words. Each word is located in the geometric space at coordinates determined from the eigenvectors and eigenvalues. Thus, proper construction of the matrix and proper determination of coordinates from eigenvectors can ensure that distance between words in the geometric space is representative of the numeric value measure of the words' similarity.

Hendrickson fails to specifically disclose associating and displaying labels in connection with selected peaks of surface map, wherein a label represents a significant term of the data records associated with the selected peak. However, Becker teaches associating and displaying labels in connection with selected peaks of surface map, wherein a label represents a significant term of the data records associated with the selected peak (col. 7, line 55 to col. 11, line 67; figs. 6-7b and 8). In other words,

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Becker discloses the splat opacity is a function of the weight of aggregated data points in a corresponding bin. A splat is drawn at each bin location to form an image that visually approximate an original scatter plot of the data thus depicts the selected peaks of the surface map. Therefore, it would have been obvious for one of ordinary skill in the art to combine associating and displaying labels in connection with selected peaks of surface map, wherein a label represents a significant term of the data records associated with the selected peak of Becker to the system of Hendrickson because it would have enable graphically depicted the opacity function using large and small global scale factors (Becker: col. 7, line 55 to col. 11, line 67; figs. 6-7b and 8).

Re claim **21**, Hendrickson discloses a computer-implemented method for generating graphical surface map visualizations from a set of data records, comprising the steps receiving a plurality of data records containing a plurality of terms (col. 1, lines 10-49); generating a first surface map representation of data records corresponding to the significance of the terms in the data records (col. 7, line 41 to col. 8, line 11); enabling the user to define at least two of terms as equivalent terms (col. 6, line 18 to col. 7, line 38). In other words, Hendrickson teaches locating related words in geometric space for data mining. The related words are located relative to the relationships among the meaning of the words. Each word is located in the geometric space at coordinates determined from the eigenvectors and eigenvalues. Thus, proper construction of the matrix and proper determination of coordinates from eigenvectors can ensure that distance between words in the geometric space is representative of the numeric value measure of the words' similarity. In addition, input from a user can tailor

the information displayed to meet the user's specific requirements. For example, user input can direct the selection of an aspect for display, such as a subset of the geometric space. Additionally, user input can direct the display of only words having certain attributes. Furthermore, user input can direct the display of detailed information about a particular word, such as more complete identification of individual words or more detailed display of specific links among the words. Therefore data mining system can allow user to select only certain portions of the database. For example, the user can direct the display of only items with dates in a certain range or with particular origins.

Hendrickson fails to specifically disclose generating a second surface map representation of data records based on the significance of the defined equivalent terms. However, Becker teaches generating a second surface map representation corresponding to vector representations in response to selection of second surface map generation method (col. 12, line 1 to col. 15, line 50; col. 14-15; figs. 9a-10b). In that the two or more different tables represents different surface map. In addition, the variables correspond to the vector that uses to represent an intermediated position along the slider scale a user chooses. As for the terms, the variables represent the equivalent terms. Therefore, it would have been obvious for one of ordinary skill in the art to combine the step of generating a second surface map representation of data records based on the significance of the defined equivalent terms of Becker to the system of Hendrickson because it would enabled the determination of splat opacity using interpolated weights on different surface map based on the variables (Becker: col. 12, line 1 to col. 15, line 50; col. 14-15; figs. 9a-10b).

Re claim **24**, Hendrickson discloses a computer-implemented method for generating graphical surface map visualizations from a set of data records, comprising the steps receiving a plurality of data records containing a plurality of original terms (col. 1, lines 10-49); generating a surface map representation (col. 7, line 41 to col. 8, line 11). In other words, Hendrickson teaches locating related words in geometric space for data mining. The related words are located relative to the relationships among the meaning of the words. Each word is located in the geometric space at coordinates determined from the eigenvectors and eigenvalues. Thus, proper construction of the matrix and proper determination of coordinates from eigenvectors can ensure that distance between words in the geometric space is representative of the numeric value measure of the words' similarity.

Hendrickson fails to specifically disclose receiving a substitute term. However, Becker teaches receiving a substitute term (col. 12, line 1 to col. 15, line 50; col. 14-15; figs. 9a-10b). The data visualization of Becker discloses new data visualization tool that depicts a scatter plot. A user can smoothly animate a plot along several data points. Thus the variables required to plot the data points are able to be substitute terms (i.e. terms that are replaceable). Therefore, it would have been obvious for one of ordinary skill in the art to combine receiving a substitute term of Becker to the system of Hendrickson because it would enabled the determination of splat opacity using interpolated weights on different surface map with different variables to plot a surface (Becker: col. 12, line 1 to col. 15, line 50; col. 14-15; figs. 9a-10b).

Re claim **29**, the limitations of claim 29 is analyzed as discussed with respect to claims 17, 21, and 24 above.

Re claims **22-23, 25-26, and 30-31**, Hendrickson discloses a group of text units are words (col. 7, line 50 to col. 9, line 35; figs. 3a-4e). In other words, Hendrickson teaches related items are descriptive words.

Re claims **18-20, 27-28, and 32**, the limitations of claims 18-20, 27-28, and 32, are analyzed as discussed with respect to claims 17, 21, 24, and 29 above.

Allowable Subject Matter

Claims **1-16 and 33-38** are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The steps of generating a second concept landscape visualization corresponding to vector representations in response to selection of second generation method wherein the second visualization differs from the first visualization for the same data records based on the selected method and receiving a user command to display information associated with a certain region of the visualization in response step of receiving retrieving terms associated with the region and a numerical value associated with each term where the value associated with each retrieved term represents the proportion of the entire region that the retrieved term represents.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-7062. The examiner can normally be reached on Monday to Thursday from 9:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

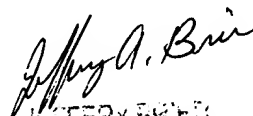
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Thu-Thao Havan
Art Unit: 2672
June 14, 2004


JEFFERY BRIEN
PRIMARY EXAMINER